REMARKS

1. Summary of Office Action

In the Office Action mailed October 3, 2007, the Examiner rejected claims 1, 2, 6, and 8 under 35 U.S.C. § 103(a) as being allegedly obvious over a combination of U.S. Patent No. 6,768,720 (Kamstra) and U.S. Patent No. 6,917,587 (Sarkar). Further, the Examiner rejected claim 3 under 35 U.S.C. § 103(a) as being allegedly obvious over a combination of Kamstra, Sarkar, and U.S. Patent No. 6,128,298 (Wooton.) Still further, the Examiner rejected claims 4, 5, and 7, 9, 10, and 12-15 under 35 U.S.C. § 103(a) as being allegedly obvious over a combination of Kamstra, Sarkar and U.S. Patent No. 7,072,941 (Griffin). And finally, the Examiner rejected claim 16 under 35 U.S.C. § 103(a) as being allegedly obvious over a combination of Griffin, Sarkar, Kamstra, and U.S. Patent No. 5,884,196 (Lekven).

For the reasons set forth below, Applicant respectfully requests reconsideration and allowance of the claims, as amended herein.

2. Status of the Claims

By this response, Applicant has incorporated subject matter from claim 5 into claims 1 and 12. Further, Applicant has amended claim 1 to include "establishing a radio link layer connection between a radio access network and a wireless communication device, wherein the radio access network applies a radio link timer to the radio link connection; establishing a data-link layer connection over which data can be communicated between the wireless communication device and the radio access network." Support for this amendment can be found on page 6, line 13 to page 7, line 13 and on page 14, lines 5-23 in Applicant's specification.

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Further, Applicant has cancelled claims 5 and 8. In addition, Applicant has added two new dependent claims 17 and 18. Support for these newly added claims can be found on page 6, lines 13-19 and on page 14, lines 5-23 in Applicant's specification.

Now pending are claims 1-4, 6, 7, 9-18, of which claims 1, 9, and 12 are independent and the remaining are dependent.

3. Response to Examiner's Rejections

a. Claims 1-4, 6, 7, 17, and 18

Of these claims, claim 1 is independent. The Examiner rejected claim 1 under 35 U.S.C. § 103(a) as being allegedly obvious over a combination of Kamstra and Sarkar. In response, Applicant has amended claim 1. Claim 1 now recites, *inter alia*, that a "radio access network applies a radio link timer to the radio link connection" and in response to detecting that a wireless communication device has neither sent nor received packet-based real-time media over a data-link layer connection for a threshold period of time, "sending from the wireless communication device into a radio access network at least one keepalive signal, wherein the at least one keepalive signal resets the radio link timer." Applicant submits that, with this amendment, claim 1 is clearly allowable over the combination of Kamstra and Sarkar, as set forth below.

Kamstra is directed to a method of detecting that a home network controller has neither sent nor received a physical-layer packet, and in response to this detection, transmitting a heartbeat packet. For instance, Kamstra teaches that a home network controller "periodically checks an interrupt status register for receipt of a ***physical-layer packet***." *See* Kamstra at Abstract. (Emphasis added.) According to Kamstra, receipt of a "physical-layer packet serves as a proxy for a functional ***physical connection***, and non-

receipt of a packet serves as a proxy for a non-functional *physical connection*." *Id.* (Emphasis added.) And as shown in Figure 5, a home network controller transmits a heartbeat packet after detecting that a physical-layer packet has neither been received nor transmitted. *Id.* at column 5, lines 50-53, column 5, line 65 to column 6, line 13, and Figure 5.

In contrast to Kamstra, Applicant's claimed invention is directed to a method of detecting that wireless communication device has neither sent nor received *packet-based real time media over a data-link layer connection*, and in response to this detection, sending a keepalive signal.

Applicant submits that Kamstra's method of sending a heartbeat packet in response to detecting that a home network controller has neither sent nor received a physical-layer packet, does not amount to Applicant's claimed method of sending a keepalive in response to detecting that a device has neither sent nor received *packet-based real time media over a data-link layer connection*. Applicant finds no discussion that Kamstra's physical-layer packet is a packet that includes *packet-based real time media sent over a data-link layer connection*.

Even if one were to assume for the sake of argument that Kamstra's physical-layer packet includes *packet-based real time media sent over a data-link layer connection* (which Applicant submits is not supported by Kamstra), Kamstra still fails to teach a method of in response to detecting that a wireless communication device has neither sent nor received packet-based real-time media over a *data-link* layer connection, *resetting a timer* that is associated with a *different connection*. Claim 1 recites two different connections: a data-link layer connection and a radio link layer connection.

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Applicant finds no discussion in Kamstra of in response to detecting that a wireless communication device has neither sent nor received packet-based real-time media over a *data-link* layer connection, sending a keepalive signal, which resets a radiolink timer associated with a *radio link* layer connection.

In view of the discussion above, Applicant submits that Kamstra fails to teach a method of (a) establishing two different connections: a radio link layer connection and a data-link layer connection, (b) applying a radio link timer to the ***radio link*** layer connection, and (c) *in response* to detecting that a wireless communication device has neither sent nor received packet-based real-time media over the ***data-link*** layer connection, sending from the wireless communication device a keepalive signal, which resets the radio link timer, which is associated with the ***radio link*** layer connection.

Sarkar does not make up for these deficiencies in Kamstra because Sarkar teaches a method of sending the SID in response to detecting that *a user* is quiet at an endpoint. For instance, Sarkar teaches that a "VAD [(Voice Activity Detection)] detects period of silence *when a user at the endpoint of media stream is quiet*". *See* Sarkar at column 7, lines 58-61. (Emphasis added.) Further, "[w]hen VAD detects a sufficiently long period of silence, a silence insertion descriptor (SID) packet is sent to call resource 12 to indicate that no RTP packets will be transmitted from device 16 ***because a user*** at an endpoint of the media stream is silent." *Id.* at column 7, lines 61-65. (Emphasis added.)

Applicant, however, finds no teaching that Sarkar's SID is sent in response to detecting that the wireless communication device has neither (i) sent nor (ii) received packet-based real-time media over a data-link layer connection for a threshold period of

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time. At best, Sarkar teaches the SID is sent in response to detecting that a user has been quiet.

Applicant submits that just because a user has been quiet does not mean that the user's endpoint has neither sent nor received packet-based real time media. Sarkar's endpoint may very well have been receiving voice in the form of data packets from another device (via call resource 12) at the time the user of the endpoint was silent. Applicant finds no discussion in Sarkar of detecting that a wireless communication *device has neither sent nor received* packet based real time media over a data-link layer connection for a threshold period of time and *responsively* sending a keepalive signal.

Further, Applicant submits that Sarkar fails to teach a method of in response to detecting that a wireless communication device has neither sent nor received packet-based real-time media over a *data-link* layer connection, *resetting a timer* that is associated with a *different connection*.

At best, Sarkar teaches a method of resetting timers that are associated with a media stream. *See* Sarkar at column 8, lines 50-55. For instance, in column 8, lines 50-55, Sarkar defines the timers used in Sarkar's Figures 3A and 3B. Sarkar teaches that "[c]all resource 12 detects inactivity by using timers *associated with media and/or control packets,* and/or user responses from each media stream. If one timer or a combination of more than one timer *associated with a media stream* expires and the associated packets or user responses have not been received, call resource 12 deletes the media stream from the call session." *See* Sarkar at column 8, lines 50-55. (Emphasis added.)

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Applicant, however, finds no teaching in Sarkar of in response to detecting that a wireless communication device has neither sent nor received packet-based real-time media over a *data-link* layer connection, sending a keepalive signal, which resets a radio link timer associated with a *radio link* layer connection.

In view of the discussion above, Applicant submits that Kamstra fails to teach a method of (a) establishing two different connections: a radio link layer connection and a data-link layer connection, (b) applying a radio link timer to the *__radio link__* layer connection, and (c) *in response* to detecting that a wireless communication device has neither sent nor received packet-based real-time media over the *__data-link__* layer connection, sending from the wireless communication device a keepalive signal, which resets the radio link timer, which is associated with the *__radio link__* layer connection.

Accordingly, Applicant submits that claim 1 is allowable over the combination of Kamstra and Sarkar for at least the foregoing reasons. Applicant further submits that claims 2-4, 6, 7, 17, and 18 are allowable as depending on an allowable claim.

b.   **Claims 9-11**

Of these claims, claim 9 is independent. The Examiner has rejected claim 9 under § 103 as being unpatentable over Kamstra, Sarkar, and Griffin. In response, Applicant submits that the rejection is improper and should be withdrawn because the Kamstra, Sarkar, and Griffin combination does not teach each and every element recited in claim 9. Like claim 1, claim 9 recites, *inter alia*, determining that "that the cellular mobile station has neither send nor received real-time media over a data-link layer connection for a threshold period of time" and "sending a keepalive signal into the radio access network causes the radio access network to reset a radio-link timeout timer for a radio link

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assigned to the cellular mobile station." For the reasons set forth above for claim 1, Applicant submits that the combination of Kamstra and Sarkar fails to disclose or suggest every element of claim 9.

Griffin does not make up for the deficiencies in the Kamstra/Sarkar combination. Griffin is directed to a method of sending a keep-alive signal from a mobile terminal 100 to server complex 204. *See* Griffin at column 17, line 66 to column 18, line 2. Applicant, however, finds no teaching in Griffin of in response to detecting that a cellular mobile station has neither sent nor received packet-based real-time media over a ***data-link*** layer connection, sending a keepalive signal from the cellular mobile station into the radio access network causes the radio access network to reset a radio-link timeout timer for a radio link assigned to the cellular mobile station.

Therefore, Applicant submits that claim 9 is allowable over the combination of Kamstra, Sarkar, and Griffin for at least the reasons set forth above. Accordingly, Applicant submits that 10 and 11 are allowable as depending on an allowable claim.

c.   **Claims 12-16**

Of these claims, claim 12 is independent. The Examiner rejected claim 12 under 35 U.S.C. § 103(a) as being allegedly obvious over a combination of Kamstra, Sarkar, and Griffin. In response, Applicant submits that the rejection is improper and should be withdrawn because the Kamstra, Sarkar, and Griffin combination does not teach each and every element recited in claim 9. Like claim 9, claim 12 recites, *inter alia*, a mobile station that is arranged "(i) to detect that no packet-based real-time media has been communicated to or from the mobile station over the data-link layer connection for a threshold period of time that is less than the predefined period of time, and (ii) to

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responsively transmit packet-data as a keepalive signal over the air interface to reset the radio link timer." Therefore, Applicant submits that claim 12 is allowable over combination of Kamstra, Sarkar, and Griffin for at least the reasons set forth above for claim 9. Applicants further submit that claims 13-16 are allowable as depending on an allowable claim.

4.   Conclusion

In view of the foregoing, Applicants submit that claims 1-18 are allowable, and thus Applicants respectfully request favorable reconsideration and allowance of these claims. Should the Examiner wish to discuss this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913-3351.

5.   Payment of Fees

Please charge any underpayment or credit any overpayment to Deposit Account No. 210765.

6.   Other Matters

Applicant has reviewed the Office Action in it entirety and submits that the Examiner has not provided a basis for rejecting claim 11. Applicant respectfully requests the Examiner to either allow claim 11 or to provide a basis for rejecting claim 11.

Respectfully submitted,

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Date: February 4, 2008   By: _____/Omar D. Galaria/_____
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